

46

LOCATOR TRAIL

DATE 5 2007

TIME 5:00 AM

Project/Client: Terrace / Tom Sault

RS 1000, RS 1000, RS 1000

10940. On site RS 1000 to collect final water samples if not base flow.

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RS 1000

Location: IRK61 - Jan 5 - 2002

Project: IRK61 / full suite -
S. 699, 701, 702, 703

1350 checked over to check water gauge
at site. IRK61 is in line with IRK61. The
gauge was also similar to IRK61. IRK61
now likely. Will return to sample when
water is available.

1360 IRK61 is in line with IRK61. IRK61
is in line with IRK61. IRK61
is in line with IRK61. IRK61

*Sieve of IRK61 is in line with IRK61.
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Location: IRK61 - Jan 5 - 2002

Project: IRK61 / full suite -
S. 699, 701, 702, 703

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1430 IRK61 is in line with IRK61.
IRK61 is in line with IRK61.

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Location: IRW Date 5/2/07

Project/Client: Intensive / Full suite

RS 234, 302

1700 On site RS-234 to attempt partial suite water sampling. Stream is not at expected baseflow conditions. Water up a little, rising turbid with ditch runoff flowing down road. Decided not to sample today. (36.05249, -94.29788)

1705 - off site RS-234

1745 - On site RS-312 to collect full suite. * Stream level appears to be reasonably close to base flow conditions observed at this site on previous visits.

Coordinates: (36.05495, -94.48477) 13 ft

1750 - Sample time [RS-312-050207a]

2x 19 gallon, 1x 500ml sterile, 1x 100ml P

1755 - off site RS-312

5/2/07

61

61

Location: IRW Date 5/3/07

Project/Client: Intensive / Full suite

RS 336, 253, 133, 139

0915 On site RS-336 to attempt full suite water collection. Stream is above bankline and will not be sample today.

Coordinates: (36.04056, -94.52389) 13 ft

1015 On site RS-253 to attempt full suite sample. Stream is elevated significantly above base flow.

No sample collection (36.07430, -94.55263)

1020 Off site RS-253

1025 On site RS-133 - Stream level is elevated and very turbid. No sample collected.

Coordinates: (36.0882, -94.32160) 20 ft

1030 Off site RS-133

1040 On site RS-139 to collect partial suite.

* Stream does not appear to be elevated above base flow. Decide to collect sample.

Photos: 1040-1041

Coordinates: (36.08704, -94.26622)

1045 On site RS-139

1050 On site RS-56 to collect partial suite. Stream appears to be within 200 ft base flow line is not turbid.

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203

Date 1/15/08

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54

Location IRW Date 5/3/07

Project/Client Invasive / Fall suite

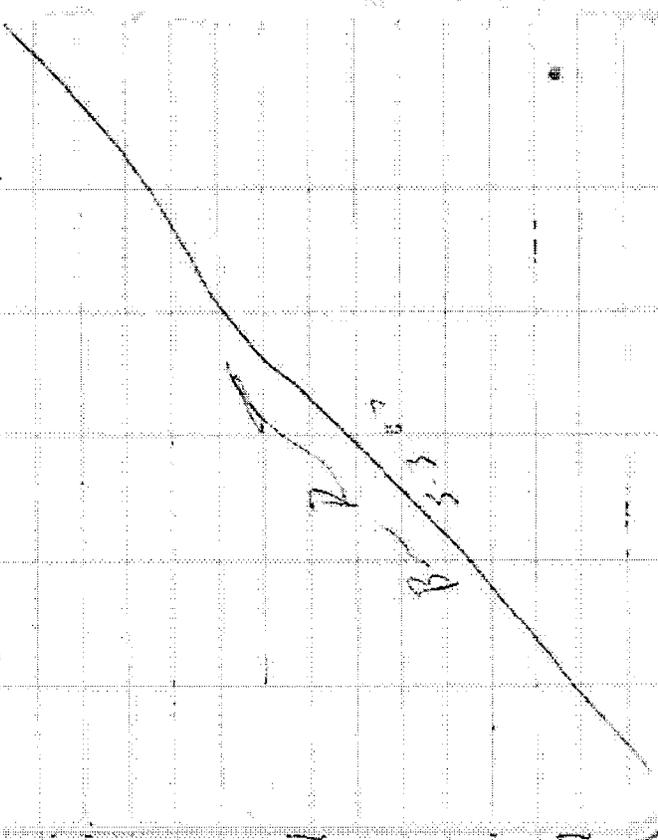
RS-234, RS-402

1445 - RS-234 - on site. River is above base flow and coming fairly turbid. Does not appear to have changed much from yesterday. NO Sample collected (35.45204, -94.25023)

1450 - off site RS-234

1505 - on site RS-402 to attempt full suite sampling. River is still up above baseflow and turbid. May actually be higher than it was yesterday. No Sample Collected.

1510 - off site RS-402 (35.89457, -94.29264) 20ft



Location IRW Date 5/11/07

Project/Client Fish Sampling

RS-630

1445 - On site RS-630 to do training on fish sampling with all members of ODFW team + Brian Barnett, Renee Melmore, Ron Frisby of CDM. Weather = Sunny 75°F

* Stream is running clear and slightly above base flow

1450 - Measure 100m length (actually 300' type)

- Site goes from pedestrian bridge on downstream side to 15m down from road crossing.

- Coordinates: (35.91341, -94.96845) at midpoint of stream sampling reach.

1630 - 1st pass completed with 2 netters + backpack w/river with own net → 1759 seconds on backpack power counter.

+ 120 Hz ^{BB} , 9.5-10.0 Amps, 27% duty cycle

1715 - 2nd pass completed - 2762 total time for both passes (2762-1759 = 1003 second pass sounds)

1740 - Fish - 1D completed - Several specimens with bulbous cysts / lesions on body - 3 photos of lesions, 2 of site, 1 substrate.

* Note: Shucking crew on both passes consisted of 2 netters + 1 backpacker with own net.

* One Fertilizer with apparent lesions was present in site water, 50% Formalin - RS-630-1

Note: All fish data recorded on additional data sheets

1800 - off site RS-630

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Location IRW Date 5-15-07

Project/Client Fish Sampling - OEL/Science

RS-707

0900 - On site RS-707 to collect fish sample
 Peter Walker - Cloudy, 50°F
 Crew: Brian Bennett, Chris Wisenbrot,
 Jim West, Brian Lewis - 3 ODWC
 One 300' reach marked out, begins approx
 50m upstream of road crossing and continues
 upstream 300 feet.
 Coordinates at lower block net: (35.8700, -94.77207)
 Coordinates at upper block net: (35.8598, -94.77211)
 1st pass = 1068 seconds on shocker.
 * 1 backpack + 2 dipnets on both passes
 Note: Site has 2 deep pools along left bank
 near the upper blocknet and the midpoint which
 are too deep to electrofish effectively with our
 current equipment set up. Attempted to fish as
 much of the pools as possible, but some fish
 escape is apparent.
 1035 - 2nd electrofishing pass started - 1 backpack +
 2 dipnets
 Note: One specimen collected for ID verification as
 ... Female longthroat Darter to represent 4 others in
 1st pass and 3 others in second pass.
 [RS-707-1] - preserved in 50% formalin 50% H₂O

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Location IRW Date 5-15-07

Project/Client Fish Sampling - OK

RS-707 RS-667

1115 - Second pass completed. Total time
 on shocker = 2367 seconds
 * Photo of Black Bullhead taken
 Photos: 100-1090 → 100-1099 - camera is not
 taking very clear photo - battery may just be
 low.
 1145 - finished ID, began loading equipment
 1150 - off site RS-707
 1235 - Slip for launch - buy power inverter to charge
 electrofishing battery on site.
 1400 - On site RS-667 to conduct fish survey
 Weather - Mostly cloudy 85°F, Chance of T-storms
 Crew same as previous site
 Coordinates @ Downstream Blocknet - (35.92978, -94.69825)
 Coordinates @ Upstream Blocknet - (35.90831, -94.69925)
 * 100' stretch marked, several riffles and pools. Dense
 riparian vegetation. Some areas of dense macroalgae
 growth in backwaters. Right bank and left bank
 show basic wetlands
 1400 - 1st pass started - Total time = 1074 sec.
 * Photos = 1000-1045 → 100-1054
 1500 - 2nd pass started - 1 backpack, 2 nets
 Total time 2066 for both passes
 1400 - Both passes completed - finish fish ID.

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Location IRW Date 5-15-07
Project/Client Fish Sampling - Oklahoma
RS-667 (cont.)

1610- Take photos of unidentified Centropomid. Possibly a hybrid Green Sea Fish. Possibly a Pumpkin Seed Sunfish. Record as unknown centropomid on field data sheets.

1620- Finish Fish ID, begin packing vehicles.

1630- Off site RS-667 - return to Telegraph.

5/15/07

59

Location IRW Date 5-15-07
Project/Client Fish Sampling - Oklahoma
RS-62A

0800 - On site RS-62A to conduct fish survey.
Crew Members: Brian Bennett, Chris Wisenbent,
Jon West, Brian Lewis (3 OWC + 1 SDN)
Weather: Sunny, 65°F. No rain forecasted.
Current miles: (36 55710 - 4158880) - upper blocknet 46.00
(36 55719 - 44158875) - lower blocknet 46.00
12130: Blocknets set up - 3000' reach with split channel on upper 100' - both channels blocked.
* Approximately the same reach as 2005 biological survey and fish sampling. Photos 1055 → 1065 (new photos)
0945 - 1st pass started.

Total shoveling time = 1916 seconds for 1st pass
1045 - 1st pass complete - begin fish ID while recharging battery. Large number of fish collected in 1st pass compared to previous sites.
1125 - Finish ID of 1st pass - charge battery from car - break for lunch

1300 - Begin 2nd Pass

1340 - End 2nd Pass Total time = 3972 seconds (1103 mins)

1345 - Begin ID of 2nd pass

1410 - Finish ID - Begin packing vehicles

1420 - Off site RS-62A

1430 - On site RS-772 to check for access by OWCs.
Chris Wisenbent does not see a problem with this site as no fences or signs present.

60

Location TRW Date 5-16-07

Project/Client Fish Sampling - OK Johnson

RS-541

1500 - On site RS-548 to check for access by
 ODWC - Chris Wickham said he has SR, no
 issues with site access as no fences and no
 signs in area.

1505 - On site RS-541 to check for access issues
 no problem with this site as there are
 no fences or signs posted in area. Decide to
 attempt sample - begin charging electrofishing
 battery from car charger.

1505 - Measure at 300' length S stream to sample.
 Upstream Coordinates = (36.03349, -94.72674) 2054
 Downstream Coordinates = (36.03282, -94.72657) 1349

Note: Site consists of long ditches, some divided channels
 adjacent aquatic macrophytes (conspicuous), mostly gravel substrate.
 Some small pool areas along cut bank.

1540 - Begin 1st Pass - Total time = 12:52 sec (1st pass)
 1615 - End 1st Pass - Charge battery
 1655 - Begin 2nd Pass - Total time = 22:22 sec (both pass)
 1730 - End 2nd Pass - Begin Fish ID.

Photos: 1016 1018 1019 1020 - Murret Kubit
 1745 - Fish Fish ID begins packing vehicle.
 1800 - On site RS-541

S-11-07

61

Location TRW Date 6/14/07

Project/Client High Flow Barrel collection / Live Aquic 4566

HFS-04, HFS-22, HFS-21

0710 - On site HFS-04 to look for Cladophora
 to send to Jon Stevenson and to collect High Flow
 barrel. Stream level is normal, but bed
 appears to have recently been scoured, very little
 visible periphyton and riparian vegetation is pushed
 over in some places.

Notes: 1002279-1012051 in old Kodak (unlabeled)
 Coordinates of barrel = (36.20152, -94.60497) 23' SW

0740 - Finished collecting barrel and taking for cladophora
 at site, no cladophora samples collected

0745 - Offsite BS - HFS04 (HFS-04)

1030 - On site BS - HFS 22 to look for cladophora
 and collect high flow barrel.
 Coordinates = (35.91578, -94.43550), 20.54
 Photo = 100.2882 - upstream

- Stream level normal, signs of scouring recently with
 scattered riparian vegetation, little macroalgae visible.

1055 - Finished searching for cladophora & collecting barrel

NO SAMPLE - only cladophora and some periphyton found
 attached at site, very little live periphyton/algae

at site, apparently scoured.

1105 - On site HFS-21 to collect high flow barrel
 Coordinates = (35.99781, -94.42836) 16.44

1120 - Offsite HFS 21

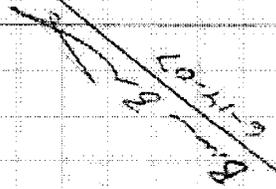
BE

63

Location: IRW Date: 6/14/07

Project/Client: Live Algae Collection

1410: on site Illinois River at Hwy 62 to take photos of elevated stream level.
 Coordinates: (35.92576, -94.92374)
 Photos: 100-2884 - 100-2887
 * Stream level definitely elevated, water grey + turbid.
 1420: offsite Illinois River @ HWY 62



62

Location: IRW Date: 6/14/07

Project/Client: High Flow Barrel collection / Live algae search

HFS-29, 28a, RBS-548, HFS-50

1220: on site HFS-29 to collect high flow barrel and bioscience cladophora to collect.
 Coordinates: (36.00178, -94.69447) 67 FT
 - Stream level elevated, road probably washed out, mud had been heavy since recently. Water from creek flows over road. No macroalgae visible for collection.

1240: offsite HFS-28

1255: on site HFS-28a to collect high flow barrel and look for cladophora. Again, signs of recent flooding from high flow event.

Coordinates: (36.03340, -94.72658) 25 FT

* No cladophora found at site.

1310: offsite HFS-28a

1315: on site RBS-549 to look for cladophora. Recent high flow apparent (RBS-HFS-28a)

No signs of cladophora at site.

11325: offsite RBS-549

11340: on site HFS-50 to collect barrel. Coordinates: (35.96032, -94.81740) 17 FT

1350: offsite HFS-30 Barrel collected.

1355: on site RBS-616 to look for cladophora to collect. No macroalgae visible at site, level normal, no sign of flooding.

1405: offsite RBS-616

Location: J. Russ Date: 7/10/07

Project/Client: Residential Well

Kusterbiller

1035 On site from Kusterbiller residence to collect residential well samples.

Crew Members: Brian Burnett & Danielle Jordan
 Weather: Cloudy, overcast shower. 58°F

1048 - Begin flushing well - Temp = 22.8°C pH = 7.21

2nd Sample bucket = Temp = 17.3°C pH = 7.05

3rd Sample bucket = Temp = 16.6°C pH = 7.05

4th Sample bucket = Temp = 17.1°C pH = 7.66

5th Sample bucket = Temp = 17.1°C pH = 7.65

Flow is approximately 1 bucket every 15-20 minutes

Sample time beginning (10:00-10:15)

2nd bucket = 23.1°C, 7.72 pH, brown

3rd bucket = 19.6°C, 7.65 pH = brown

4th bucket = 17.3°C, 7.57 pH = brown

5th bucket = 16.9°C, 7.53 pH = dark brown

6th bucket = 16.7°C, 7.51 pH = dark brown

7th bucket = 16.7°C, 7.40 pH = dark brown

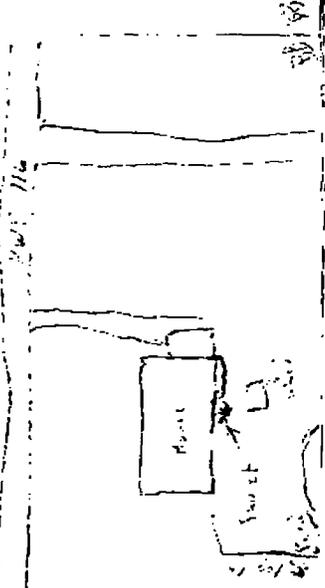
8th bucket = 17.1°C, 7.65 pH = dark brown

9th bucket = 17.1°C, 7.65 pH = clear

Final temp = 17.1°C, pH = 7.18 - clear water

No odor to sample water

Well coord. notes: (36.06115, -94.571115)



Location: J. Russ Date: 7/10/07

Project/Client: Residential well

Russ

1010 On site water very warm with a slightly like hint. Sample must likely detect from well, but may need to follow up with hand cover, with some sterility.

Coord. notes of well = (36.26115, -94.571115)

Landowner requests results when available.

1015 Off site. Kusterbiller residence.

1050 On site. Russ residence to do well sampling

Water to odor warm when follow to sample outside faucet near shower next to truck.

Water initially very turbid and brown

1st bucket = 23.1°C, 7.72 pH, brown

2nd bucket = 19.6°C, 7.65 pH = brown

3rd bucket = 17.3°C, 7.57 pH = brown

4th bucket = 16.9°C, 7.53 pH = dark brown

5th bucket = 16.7°C, 7.51 pH = dark brown

6th bucket = 16.7°C, 7.40 pH = dark brown

7th bucket = 17.1°C, 7.65 pH = dark brown

8th bucket = 17.1°C, 7.65 pH = clear

Final temp = 17.1°C, pH = 7.18 - clear water

No odor to sample water

Well coord. notes: (36.06115, -94.571115)

Location: IRW
 Project/Client: Resident
 Date: _____
 Date: _____

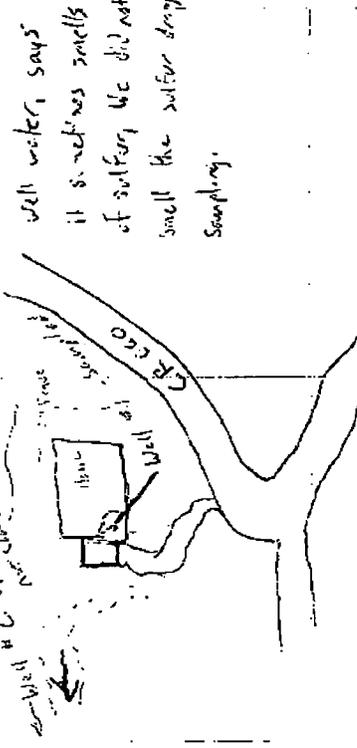
4th bucket: Temp = 16.8°C pH = 6.21
 5th bucket: Temp = 16.9°C pH = 6.25 Cond = 102.3 ug
 Sample time: 6:10 - 6:15 (100) - 01

Temp = 2x 19.1, 2x 20.1, 1x 16.5 ml
 Cond = 102.3 (36.1786, -94.70910) SG. it
 Photos 101, 290's 100, 290.1

* Resident said well at top of hill is 75-100 ft
 but has no faucet/pump attached anymore and
 would be difficult to sample. She did not
 think we should drive up the hill with
 wet ground etc.

* Only sampled well near house Resident said
 well is 40 ft deep, well is many years old
 probably 20 or more - landowner unsure.

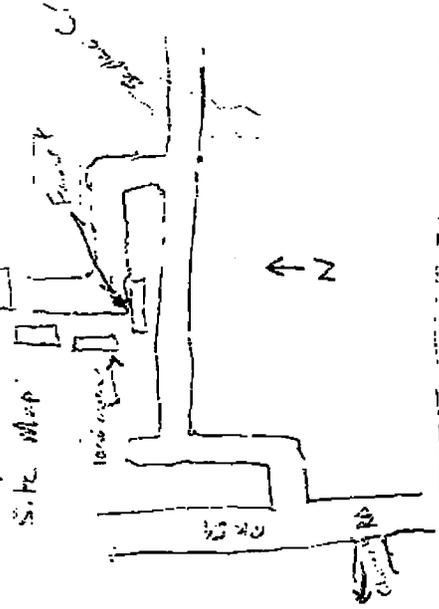
Site Map



Notes: Resident
 does not drink the
 well water, says
 it sometimes smells
 of sulfur. We did not
 smell the sulfur during
 sampling.

Location: IRW
 Project/Client: Resident
 Date: 7/1/07
 Date: _____
 Date: _____

1100 - Press well sample completed. Landowner
 says well is 100 ft, 7 years old, no 4/11/07
 system



* Landowner states no storage tank, but
 a "pressure" tank is used.

* Photos = 100, 290's - 100-290.2, Well, last
 forklift bucket, site photo facing North away
 from faucet.

1100 - 6/5/07 Res Resident
 1150: On site Sharon Buck residence to collect well sample

* Begin sampling well closest to house
 1st bucket: Temp = 18.9°C pH = 6.17 - clear
 2nd bucket: Temp = 17.3°C pH = 6.21 - clear
 3rd bucket: Temp = 16.9°C pH = 6.24 - clear

8/8/03

NO
 Location: IRW
 Project/Client: Residential Wells
 Turner
 Date: 7/10/07

1220 - Off site. Bank residence.
 1635 - Drive by Sewell residence, gate closed. Could not get to or see house. Tried calling several times with no answers.
 1240 - Head to Silburn for lunch and wait for call back from Sewell before heading down to Turner residence.

1610 - On site. Turner residence for well sampling. Site not at provided coordinates, very near RS-704 (~~0788~~ 88).

Coordinates: (38.84086, -94.77347)

1630 - Bucket #1	Temp: 17.1°C	Cond: 465µS
Bucket #2	Temp: 16.6°C	Cond: 473µS
Bucket #3	Temp: 16.5°C	Cond: 473µS
Bucket #4	Temp: 16.3°C	Cond: 473µS

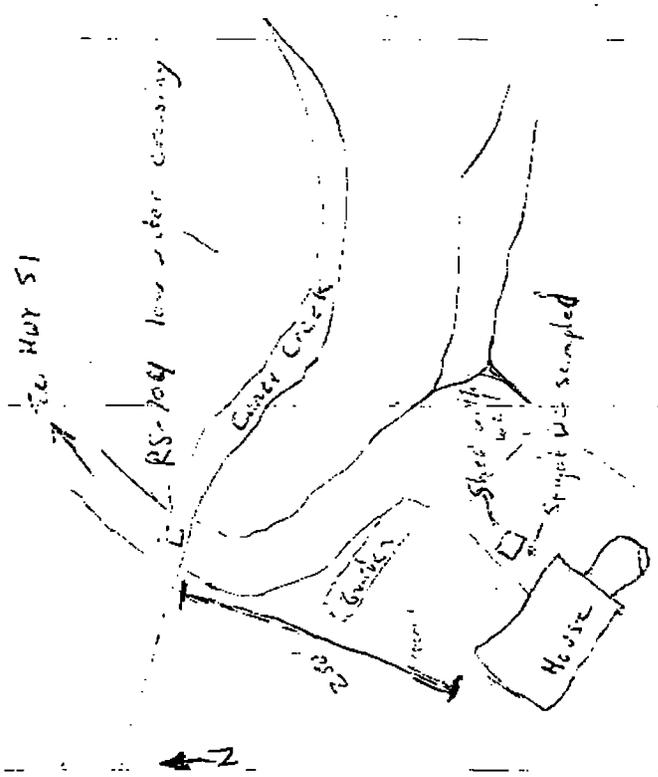
* Sampled tap in front yard - winter water, odorless.
 1635 - Sample time (Grid-Turner-071007-01)

Notes: Landowner says water is held in small 10 gal. tank and filtered with UV filter. No tap available prior to filtering apparatus. Sampled after apparatus.
 * Well 28 ft deep and at least 48 years old.
 * Photos: see 2105 - 1610 - 2106
 * Residents drink water readily but were told it had fecal coliform bacteria prior to installing filter.

3/3 89

Location: IRW
 Project/Client: Residential Wells
 Turner
 Date: 7/10/07

UV Filter. Afs. may be high in Minnesota. Site Map:



1645 - Finished sampling, store samples, off site.
 1720 - Driving along BK St. north of St. Howard to look for Crents residence because device was unable to contact him by phone prior to sampling event. GPS coordinates and mailbox seem to indicate empty house and/or air abandoned business. Will attempt to call later.

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Location: JRW Date: 7/10/07

Location: FRW Date: 7/10/07

Project/Client: Residential Wells

Project/Client: Residential Wells

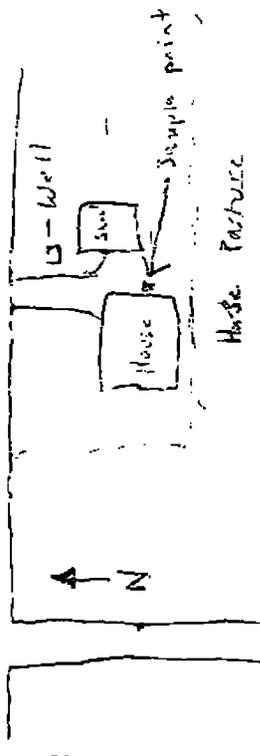
Dixon

1745 On site Dixon residence. to collect well sample
 → landowner present - had us sample spigot near house,
 - no filter, 120 ft. well, plastic pipe. From well
 to bucket Coordinates = (56.08826, -94.60777)
 1st 5 gallon bucket Temp = 20.8°C Cond = 287µS
 2nd 5 gallon bucket Temp = 18.5°C Cond = 287µS
 3rd 5 gallon bucket Temp = 18.2°C Cond = 286µS
 4th 5 gallon bucket Temp = 18.2°C Cond = 286µS

→ Landowner says he has 2 other wells on nearby properties but line tested

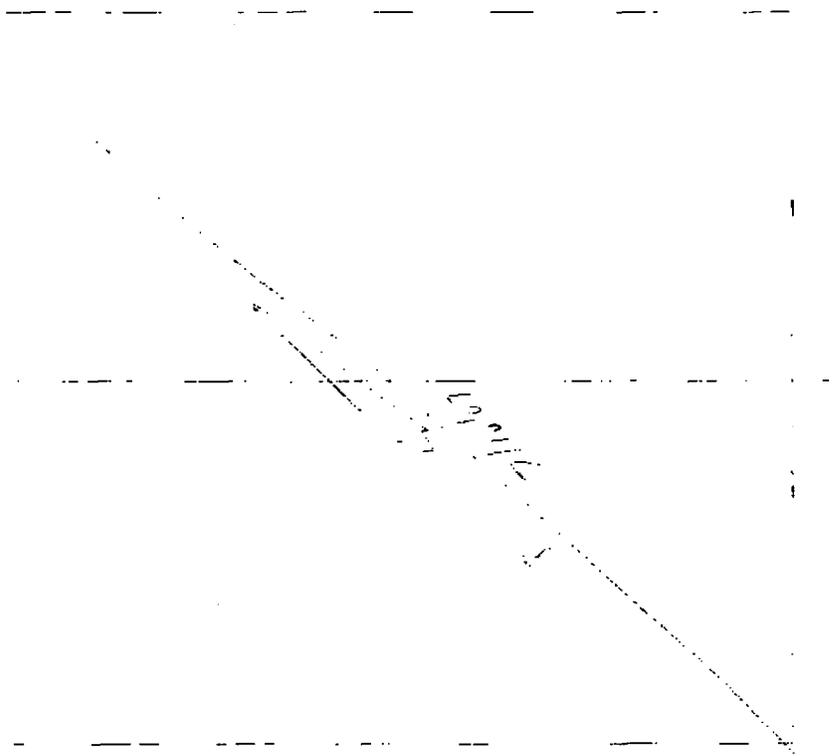
1800 Sample time (G.W. Dixon - 071007 - 01)
 2x 1 gallon, 2x 250 ml, 1x 125 ml
 Photos 100 2007 - 100-2708

Site Map:



Notes: water clear and odorless - owners have pressure tank, no holding tank. Well built in 1950's

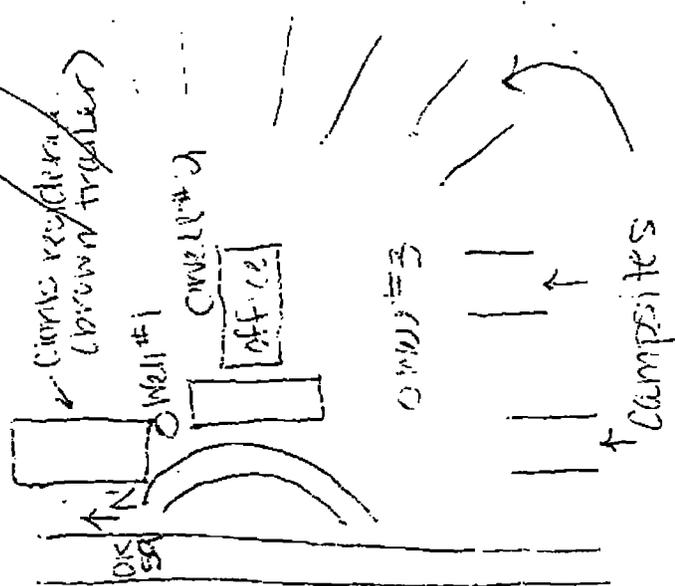
1815 Off-site Dixon residence - head to Tulsa to ship samples
 2000 At Tulsa office, pick containers take photos of C-DC's - 100, 2108, 100-2111, 100-2412.
 2130 At Tulsa to ship containers
 2140 End of day - head to hotel in Norman



Location: *Idaho* Date: *7/16/07*
 Project/Client: *Residential*
 Client's:

0720 to visit clients residence to attempt well sampling. Clients buckets all 3 wells are approximately 10 feet deep. He is currently using raw water and none of the wells have been used by him. The wells do not have pumps, therefore sampling could not be completed.

Site Map



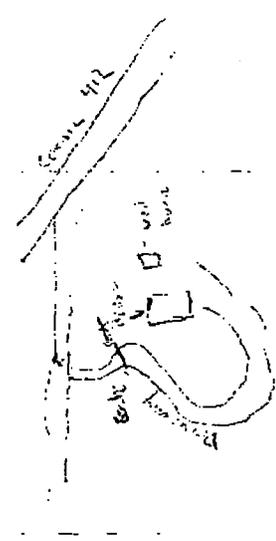
Location: *Idaho* Date: *7/16/07*
 Project/Client: *Residential*
 Client's: *Sewell*

0720 offshore at clients residence

0720 On site at Sewell residence to sample well. Rain spilt at well base below filter. Sewell well
 1st bucket: 50.5°C 564 uS 1.47 pH
 2nd bucket: 19.5°C 581 uS 7.35 pH
 3rd bucket: 17.7°C 584 uS 7.26 pH
 4th bucket: 17.8°C 587 uS 7.22 pH

* We were instructed to not sample Sewell well, but tentative seemed to send us to see we took the samples. Will call Deere to see if we should submit samples for analysis.
 * Deere's with new address for analyzing results, see additional field note sheet

(0720) Sample time (0720 Sewell-071107-01)
 2nd Well, 1st Road, 2nd Well (5015600, 997095)
 Site Map: photos 1000-0113, 100-2114



1850 Offshore Sewell residence

74

Location: IRW Date: 07/11/07

Project/Client: Residential Well Sampling
 Ames/Kindle - JS 07, 08, 22, 09

1200 Arrived at Ames residence to attempt well sampling. No answer at door.
 1230 offsite at Ames.
 1250 Arrive at Kindle residence. We were told by Mr. Kindle that the well's winter functions. The family has switched to rural water and there is no pump on the well. No samples were taken.

1300 offsite at Kindle residence.
 1330 on site BS 377. Billed Creek is dry. To check algae/flow conditions flow is slightly less than flow water mostly clear with a little cloudiness to it. All macroalgae from spring time appears to have been removed. No log macroalgae filaments visible. No signs of new growth.

1340 offsite BS 394
 1355 on site BS 422. To check stream/algae conditions. Stream level normal, moderately turbid, no signs of macroalgae in stream.
 1405 offsite BS 422.

1415 on site BS 109. Bevan Fork to check on 8/3/07

75

Location: J.R.G. Date: 07/11/07

Project/Client: Residential Well Sampling
 Ames/Kindle

algae and flow conditions. Stream level elevated, somewhat turbid, flowing over low water crossing. No signs of previous macroalgae community. Significant see may has occurred since 8 week sampling.

1415 offsite BS 377
 1440 on site BS 422 to see local, the creek appears to be elevated significantly above base flow.

1445 on site BS 422 to check flow within stream is significantly above base flow. Moderately turbid with a blue-green tint to it.

1450 offsite BS 422
 1545 on site Charles residence to collect residential well samples.

* Sample locations = BS 377, 381, -99 553 71
 1st bucket = 11.5°C 5.21 pH 310 µS
 2nd bucket = 16.6°C 1.95 pH 359 µS
 3rd bucket = 18.1°C 7.52 pH 387 µS
 4th bucket = 16.8°C 7.84 pH 391 µS

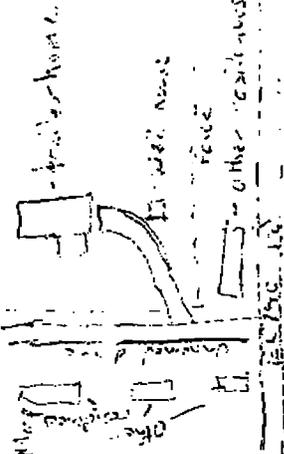
1600 Source time [07-11-07 07:07:07]
 Sample time [07-11-07 07:07:07]

* Duplicate sample: 2nd well, 2nd bucket, 1st round
 * Before filter, 100-150 µm, clear, no odor
 2 year old water

Location: ERW Date: 2/11/02

Project/Client: Residential Well - Cheats / Cor 2

1605 - Finished collecting samples photos 20-2115 - 20-2116 well/house



1st Bucket: 21.5°C 7.92 pH 362 uS cor
 2nd Bucket: 17.6°C 7.62 pH 365 uS cor
 3rd Bucket: 17.5°C 7.52 pH 366 uS cor
 4th Bucket: 17.5°C 7.45 pH 377 uS

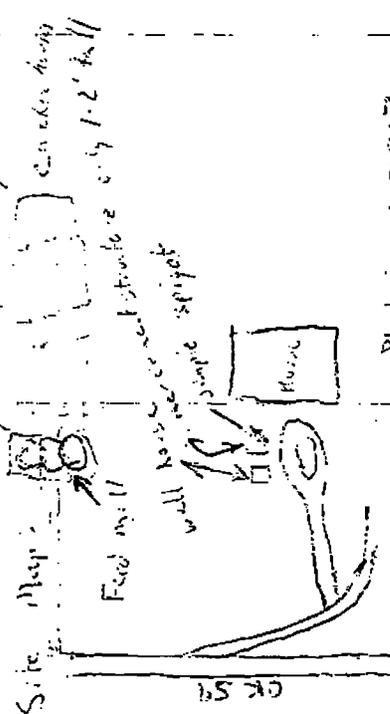
Sample time (6:40 - Cor 2 - 02/11/02 - 01)

6.5 gallon, 10 total, 20-2500L
 Residents did not seem to want to speak to us
 because said she did not know depth, filtration, etc
 - Spent a time near well structure could not see
 any filtering apparatus
 - water and surrounding directly adjacent to system
 feed into and large number of burrows

Location: ERW Date: 7/11/02

Project/Client: Residential Wells - Cor 2

1700 - Finished sampling, either people at residence did not approach us or want to talk, may not speak english.



Photos: 100-2117

Note: Water clear and odorless, temp dropped and stabilized after only a few gallons.

1705 - either Cor 2 residence.

1835 - On site taken office to pick samples and ship samples

Photos of CDC: 100-2118 - 100-2120

7-11-02

10 Location J.R.W. Date 7/23/07

Project Client Fish sampling #12 - OK

RS-630

0530- Meet up with ODWC crews to discuss game plan. One of ODWC crews has not arrived yet (James crew)

0920- On site RS 630 to begin tracing run. Crew Members: Brian Bennett, Jay Grouser, Renee Mulreine, + 6 ODWC members.

Weather: Partly cloudy 85°F

0930- Measure stream width at 4 points, very uniform stream channel avg = 7 meters
 91 x 30 = 270m approximate total length.

Lower Point: (35, 912.19, 79, 918.18) 165'

Upper Point: (35, 913.44, 79, 918.64) 130'

Note: This stream is characterized and consists of

60 70% riffles, 30-40% runs, no pools

in 270m reach, only a small number of boulder areas along banks where flow is somewhat restricted and depth slightly increased

1027- Begin electrofishing.

1215- End electrofishing - 270m reach, 3.1 flies, 3 runs, 2 pools sampled, not enough pools in the 30m stream reach with reach (270m)

photos: 100, 2041 - 100, 2046 (Gunn + Kodak)

Run stream Upstream Darter with larvae/juvs

1925- 100, 2041 - 100, 2046

1925- 100, 2041 - 100, 2046

1925- 100, 2041 - 100, 2046

1925- 100, 2041 - 100, 2046

Location J.R.W. Date 7/23/07

Project Client Fish Sampling 2 - OK

RS-620

1230- Field WQ parameters taken

- Temp = 20.5°C pH = 7.48 8.19

Conductivity = 155.7 uS DO = 8.870 ppm

1245- Sample site complete - will collect water samples this afternoon when bottles arrive.

1530- On site. BS-620 to do fish sampling.

Crew: Brian Bennett, Chris W. Schindler, Jon Wood, Brian Lewis (ODWC)

Weather: Partly cloudy 85°F

Stream level slightly elevated, similar to previous shockway event in May.

1600- Measured 4 stream widths, Avg width 30ft

30 x 30 = 900 ft, approx 300m, Max length, Lower reaches (30, 918.18, 79, 918.64) 150'

Upper reaches (36, 918.64, 79, 918.76) 150'

- Approx 50% pool, 25% riffle, 25% run, upper part (100m) is very shallow pool with some deeper pools along cut bank. A few of the deepest pools may be unstockable with brook stickleback.

* Water samples + 100 by Danielle Jordan

1635- Begin electrofishing

1840- End electrofishing

1900- Dr. L. Kick leaves in a rifle

Photos: 100, 2047 - 100, 2051

1925- 100, 2047 - 100, 2051

1925- 100, 2047 - 100, 2051

1925- 100, 2047 - 100, 2051

1925- 100, 2047 - 100, 2051

1925- 100, 2047 - 100, 2051

1925- 100, 2047 - 100, 2051

1925- 100, 2047 - 100, 2051

80

Location - IRW Date - 7/24/01

Project Client - Fish Sampling 2

RS-667

0820 - On Site RS 667 to collect fish sampling.

Crew: Brian B. Smith, Chris Wisniewski, Vic Lewis
Brian Lewis (driver)

Weather: Partly Sunny 80°F

0830 - Begin measuring out site. Plot = 11' x 11'

R. 410, 16 17 Max reach = approx 400'

Site has a good mixture of silt, clay, sand, and pebbles

46% silt, 35% clay, 21% sand

Initially deep, instead channel, good mixture
vegetation, gravel, cobbles, some silt and
evidence tracks.

0855 - Begin electrofishing

Downstream Point = (35, 96, 110) - 99 (49 161) 61'

Upstream Point = (35, 205, 110) - 94 (3, 8, 6) 63'

End Electrofishing

Photos: 100, 205, 100, 205

Note: Field well and water samples performed by
Donna. Inlet at later time today. See other
field books.

1000 - Begin bank survey of riffle habitat.

1000 - Finished bank survey - not extensive method.

1045 - Offsite RS 667

1055 - On site RS 208 Reach down creek

Weather: Sunny, 85°F

88

96

Location - IRW

Date - 7/24/01

Project Client - Fish Sampling 2

RS-208, 541

- Stream level normal clear, gravel and rubble.

1010 - Begin measuring stream 21, 19, 59, 29

Max length approx 750' - 800'

Upstream Coordinate = (35, 91413, -94, 67550) 53'

Downstream Coordinate = (35, 92287, -94, 67715) 43'

- Good mix of silt, clay, sand - 50% silt, 25% clay, 25% sand

1100 - Begin electrofishing

1235 - End electrofishing

1245 - Do kick survey

- Photos = no. 2056, 100, 2055

1300 - Offsite RS-208

1405 - On site RS-541 - old HFS-CR2 site.

1410 - Begin measuring station widths - 14, 19, 10, 14

Max = 15.5 ft x 50 = Approx 500'

Upstream Coordinate = (36, 03552, -94, 72077) 23'

Downstream Coordinate = (36, 03212, -94, 72028) 20'

- Stream level lower than previous visit. Less boulders

Shallow, gravel bottom, sand rubble - few pebbles

40% silt, 40% clay, 20% sand

1450 - Begin electrofishing

1540 - End electrofishing

Notes: D. net done - 2 RNS required

Photos - 100, 2054 - 100, 2053

1600 - Offsite RS-541

82

Location: JRU Date: 7/24/07

Project / Client: Fish Sampling at 2 - C.K.

1605 - On site RS 516 - type creek (RS 111202a)
 ↳ Stream level elevated, not turbid.

Ground mix of Ross, cinders, pebbles, gravel, cobble with some saws and under-wire boots

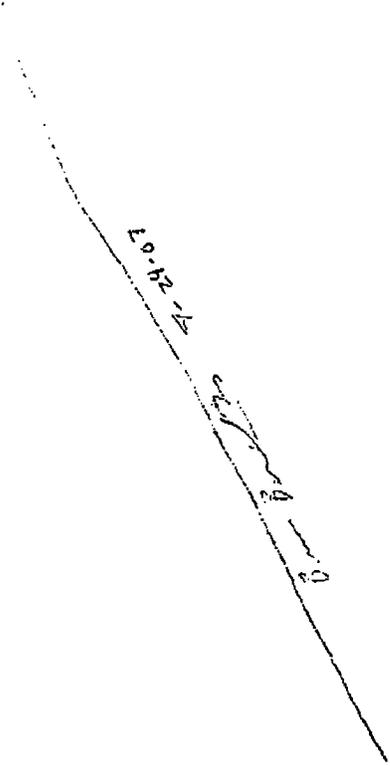
1610 = begin measuring out station width = 20, 12, 15, 10
 Maximum station length = 510

Lower endpoint = (86, 22774, -94, 72702) 48'
 Upper endpoint = (86, 62748, -94, 72596) 26'
 Photos = 100, 2967 --- 102, 2974

1625 - begin electrofishing
 1730 - end electrofishing.

1740 D. 2 Kulk Salves
 Note: Water Quality and samples collected by Donnie Jordan for a site study, see other field book.

1800 electric RS-548.



83

Location: JRU Date: 7/25/07

Project / Client: Fish Sampling at 2 - C.K.

RS-706

0830 on site AS-709 - new gate across site and to stream crossing, closed and locked. Decide to wait and try to get access permission.

0840 on site RS 706 to conduct fish sampling. Contact Don Jordan, show stream. The stream is on bank.

0845 - begin survey RS-706
 - Stream level normal, fairly marshy stream with herbaceous riparian vegetation, narrow main channel with good long short runs, riffles, and some deep pools.

0920 - begin measuring stream section widths 10', 10', 10', 10'
 Make reach length approx 250'

0930 - Upstream Point = (55, 85555, -94, 78193) 36"
 Downstream Point = (55, 85555, -94, 78193) 36"
 Photos = 100, 2975 --- 100, 2982

0940 - Begin electrofishing
 1130 - end electrofishing
 ↳ No adequate habitat for Kulk survey at site.
 Note: WQ and water collected by Donnie Jordan.
 See other field book.
 1130 - electric RS-706

84

Station IRW Date 7/25/07
 Project/Client Fish Sampling # 2 OK
 RS 707

1300 On site RS 101, gate open, Donette Irwin talked to landowner, tried knocking on door no answer. Prepare to sample.
 Weather: Very cloudy, 70°F

1310- Begin survey stream segment - 31, 23, 16, 23, 61
 river stream length approx 650'

Site with some deep pools that are too deep to sample with backpack effectively, will try to work around these pools by moving downriver and then sampling upstream from there. This should give us a good mix of riffles, runs and pools.

- Downstream point: (35.8401, 74.77054) 50'
 Upstream point: (35.8165, 74.77051) 10'

- Photos: 100, 2483 - 2

1355- Begin Electrofishing

1358- End Electrofishing

1515- Do 2 30sec Kalkrens, no fish recovered.

1000- 10 min breaks

1415- 600 low water samples collected by Donette Irwin.

1418- Effort RS 707

1419- 65 min RS 649 & 655 but vs. backpack. No toad, possible combination will be needed

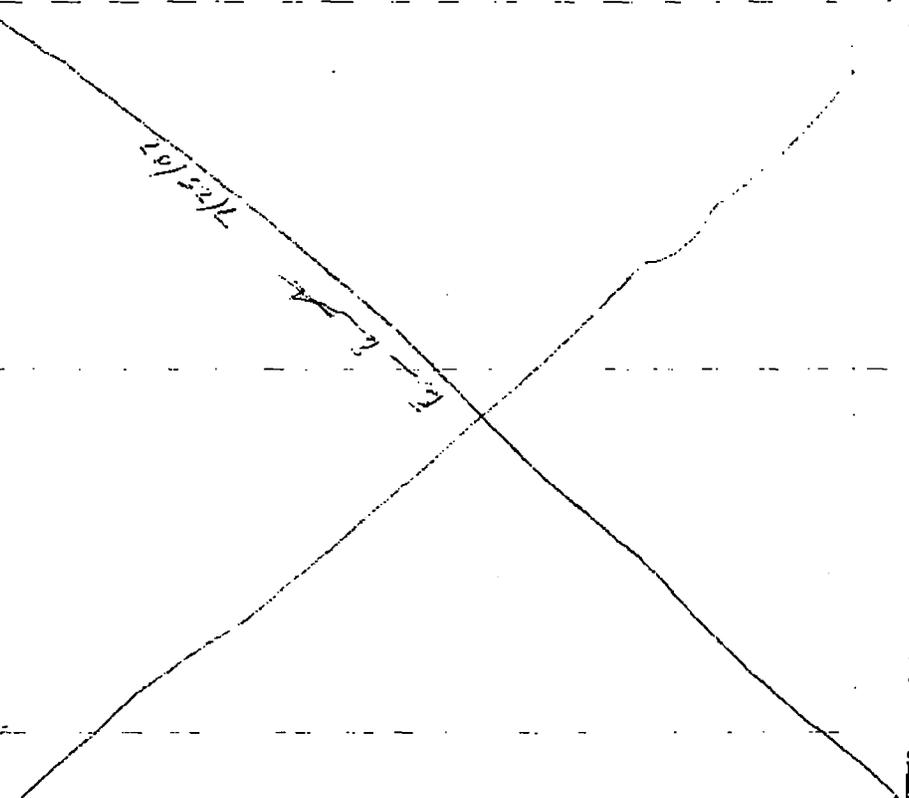
1420 On site RS 243 to see access - O'Dowd agrees that the

Location IRW Date 7/25/07
 Project/Client Fish Sampling # 2 OK

Access to site is only through private land and no landowner has been identified. Consider that site cannot be accessed.

Site address RS-6475

1402 from a tributary end of long



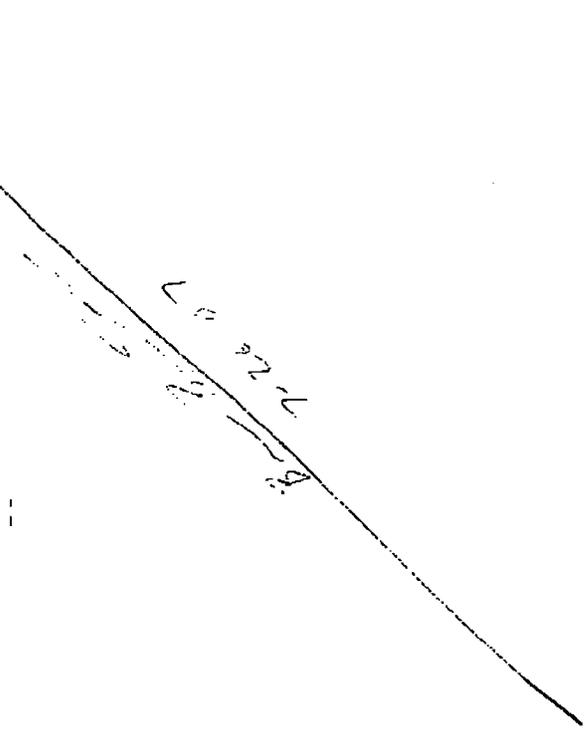
86

Location JRW

Project/Client Fish Sampling # 2 - OK

Date 7/20/07

0800 - Meet with Sandoz and other 2. CDM arrived -
 - hotel parking lot decided to make 2 teams -
 sample on bar sides and Reserve 2 teams so
 finish - 2 backpack sides -
 0800 - Depart for RS-654 -
 - See other field book (very Crandall) for
 notes on RS-654 sampling

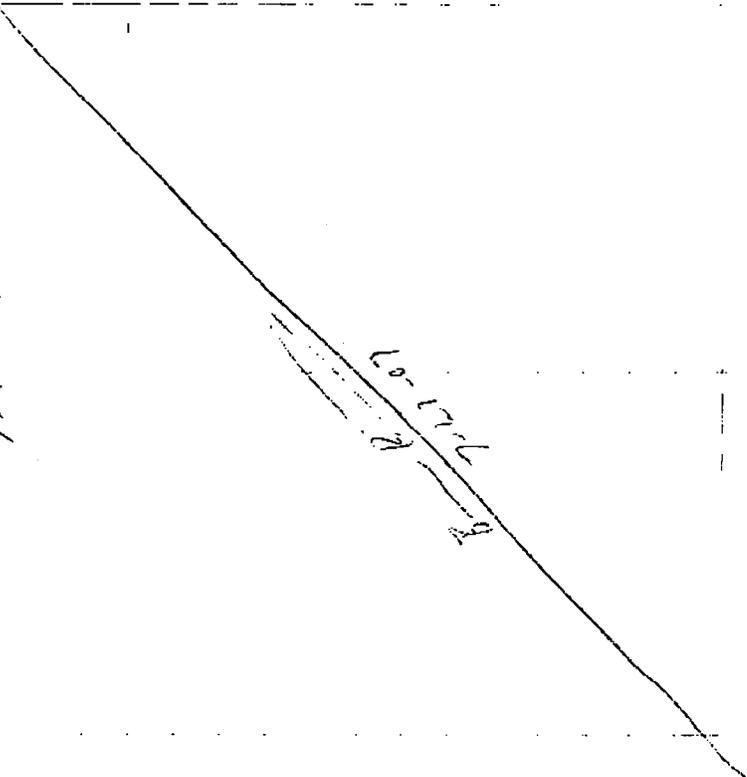


Location JRW

Project/Client Fish Sampling # 2 - OK

Date 7/20/07

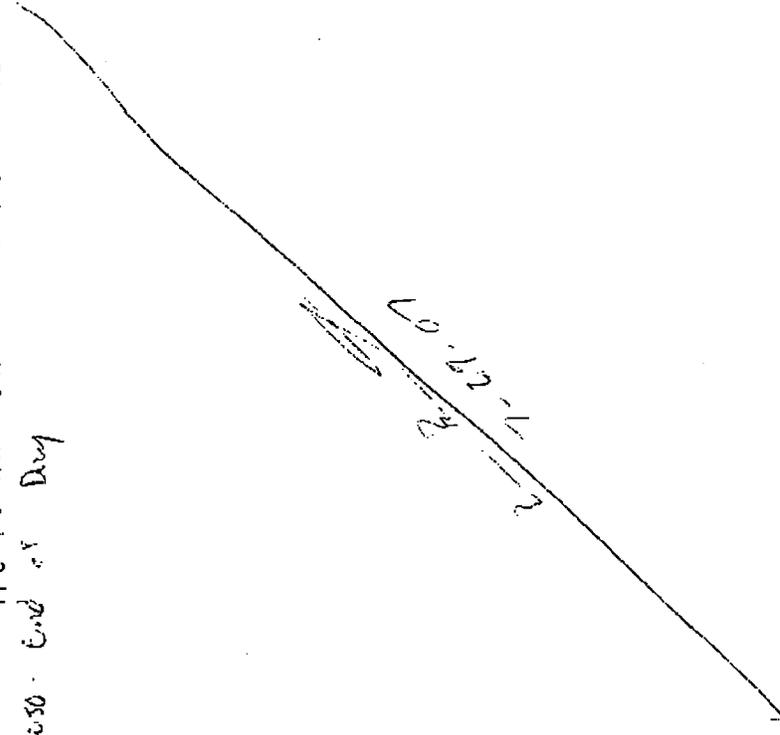
2230 - Arrived at C. Lake Chlongbylla samples
 using Mylar bags preservative and supplied ~~with~~
 glass filter picks.
 - Filtered RS-10104-072701 and
 RS-649-072710. 250mL filtered for
 each. Approx 3ml Mylar added prior to
 filtering
 2245 - finished filtering, put samples on ice



83

Location: L.R.W. Date: 7/23/01
Project/Client: Fish Sampling #2 - AR.

2010 - Filtering chlorophyll samples from 2
A. Bussard sites collected earlier - see other
field books.
Crew: Brian Bennett
2020 - Filtered RS 160, RS 312 both with
250ml through filter, MgCl₂ added
wrapped in Aluminum foil. Stored in ice.
2030 - End of Day



89

Location: L.R.W. Date: 7/23/01
Project/Client: Fish Sampling #2 - AR.

2040 - On site RS 757 to do boat shooing.
Crew: Brian Bennett, McClellan, Jordan & George
Cibulc. crew + Chris + O'Dell crew.
Weather overcast 82°F.
2050 - Brian laying out sample reach. Section
Upstream (station) = (36 13462, -9466568)
Downstream (station) = (36 14569, -94667200)
Stream level normal, moderately green (toxic)
will have to do 200m upstream of bridge.
will appear calm downstream due to rapids
or upstream end. Mostly run and pool with
only one long c. 1/4c near bridge, too big
to backpack.
2060 - WR end water samples collected - see Jordan's
field notes
Plots - 100-126 - 100-153 Rees Labs center
2070 - Brian boat electrofishing
2085 - End boat electrofishing.
No other small enough to kick size of backpack
shook at this location
2090 - Finish up fish TID
2030 - Park vehicles
2035 - Offsite. RS 757
Backpack for lunch

over

90

Location IRW

Date 7/30/07

Project/Client Fish Sampling #2 - OR

1345 On site RS 902. - Same crew as before.
 Weather: Partly sunny, 90°F
 1400 Begin measuring cut site.
 Upstream Point = (36.21505, -99.66524) 26'
 Downstream Point = (36.21453, -99.66571) 13'
 *Avg stream width = approx 12 ft in 300m and
 length needed. Had to bypass sharking area
 part of pool because of reactions/ users.
 * Buck pack shocks used on cables, but in
 long deep ponds and runs.

1430 Begin bucket electrofishing. Gorgonine + Chem
 1455 Begin bucket electrofishing. Chem's crew + CUM
 1480 Run over road to right, had to stop electrofishing
 to replace buckets
 1500 resume sampling - sampled 1 gorgonine + chem
 pool for cable with bucket and 1000 ft cable.
 cables and pool with bucket, cables, etc.
 1510 bucket and cables samples collected by, bucket
 bucket and cables samples collected by
 1520 bucket sampling - bucket cables
 bucket cables, etc. etc.



Location IRW

Date 8/6/07

Project/Client Fish Sampling - AR

1535 On site RS 592 to begin fish sampling
 Crew Members: Brian Bennett, Danielle Jordan,
 Ken Kowalewski, Tim Heister.
 Weather: Partly cloudy, 95°F
 1540 - no over safety concerns with new crew members
 1545 - Begin measuring out sampling reach
 Upstream Point = (35.97838, -99.49936)
 Downstream Point = (35.98016, -99.50054)
 Width = 19.25, 26, 32' = 102/4 = 25 x 30 = 750'
 max length = 750 FT

1600 USA and water samples collected at site
 - RS-399 - (35000) 2 x 40ml VOA, 1 x 250ml
 Chlorophyll, 1 x 500ml TAN, 1 x 125ml P,
 1 x 500ml Nitrate + Chloride.

Temp = 28.0°C Cond = 298 µS
 pH = 8.33 DO = 8.055 ppm
 - Stream level new base flow (approx) low, strands
 stretch with short puffs, and somewhat oxidizing
 cables and runs substrate mostly buckshot
 with some cobble. Turbidity when agitated
 moderate to high.

1615 - Begin electrofishing.
 1800 - End electrofishing
 Massible riffles for knee soles, low turbidity.
 1830 - 0530m. RS-514

91

92

Location: IRW Date: 8/6/07
Project/Client: Arkansas Fish Sampling

2010 - At hotel, field filtering of today's
chlorophyll sample - Bennett, Jorda
- Filtered with Mylar preservative added.
Full 250ml filtered. - Sample 1D
remains the same.

2020 - Finished filtering End of Day

8/6/07
IRW

93

Location: IRW Date: 8/7/07
Project/Client: Arkansas Fish Sampling

0730 - Talked to AR Game & Fish to confirm
sample locations for week - return call after
morning message prior to site yesterday.
0800 - on site BS-68 to conduct fish sampling
Crew Members: Bennett, Jorda, Kowalewski, Healer
Weather = Sunny 85°F
0810 - Begin measuring site - start below bridge dike
to habitat alterations from recent bridge reconstruction
(2006). Upstream of bridge is braked, marshy channel
Some sample area as 2005, only larger.
Upstream Coordinate: (36.09081, 74.50469) 93'
Downstream Coordinate: ~~(36.09171, 74.50469)~~
Width: 77.8' ± 8' Max length = 3000' n.a.
Habitats below road is fairly narrow channel, patchy along
cut bank, ripples and bars present. Flow normal,
not very turbid.

0820 - Sample Line BS-68-080707 - same as previous
site.

Temp = 23.7°C Cond = 307.6
PH = 8.08 DO = 5.302 ppm
Photos = 100% 3004 - 100% 3008

0845 - Begin Electro-fishing
1050 - End Electro-fishing
1100 - Load vehicle
1115 - off site BS-68

68

94

Location: I.R.W.

Date: 8/7/01

Project/Client: Arkansas Fish Sampling.

AS-386

1205 on site RS-386 - Same crew

Weather - 95°F Sunny

1225 Begin measuring out sample reach.

widths = 27, 23, 16, 18 Max length = 21 > 30 = 630'

Downstream Point = (36.05834, -94.51038) 36'

Upstream Point = (36.05829, -94.50771) 36'

bed mix of cinders, coals, reeds, good variety riparian vegetation

some cutbanks, bedrock, cobble, gravel. Stream moderately

turbid, near base flow.

(1240) Sample time (25 586:080707)

Temp = 28.4°C

Cond = 273 µS

pH = 7.87 DO = 7.056 ppm

1255 Begin Electrofishing.

1555 End Electrofishing

No suitable locations for kick seines - large

substrate, low velocity

1550 Finished Fish ID. - Begin leaving vehicle

1600 off-site RS 386 go to park and ship

water samples

8-7-01

Location:

I.R.W.

95

Date: 8/8/01

Project/Client: Arkansas Fish Sampling

0840 on site RS-117 - site is being impacted

by road construction - appears to be a bridge.

96' of in directly reaches sample reach. River

backed up by dirt impediment - will have

to find alternate sample location

0840 on site RS 235 to do fish sampling

Crew: Bennett, Bellinger, S. King, Hester, Kowalski.

Weather: Sunny, 80°F

0845 - Begin measuring out sample location.

Downstream Launch site: (36.07379, -94.55215) 20'

Upstream Launch site: (36.07050, -94.55057) 20'

Net width = 30' - 100' max length - working

upstream from end crossing - will have mostly pools, a few rills

(1000) Sample Time (RS 235 080807)

Temp = 26.2°C

Cond = 271 µS

pH = 7.62

DO = 3.805 ppm

0920 Begin Electrofishing.

1145 - End electrofishing

2 long mus, 3 suns, 3 Killies sampled.

No suitable sites for kick seines.

1200 - Finish fish ID, load equipment

Photos of site: 100-3018 - 100-3019

1220 - Off-site RS-235

Break for lunch

119

96

Location: TPW Date: 5/5/01

Project: Central Arkansas Fish Sampling

1510 on site RS 121 for fish sampling
 Weather: 75°F, 20% light breeze
 Some clouds as before

1415 SAMPLE TIME. 3'S (14:00-14:15)
 1-250ml Nitrite/nitrate/ammonia, 1 500ml TKN
 1-250ml Chlorophyll a, 1 250ml P, 2 100
 ml DO, 1 500ml (sample in 100 ml
 can) - 100 ml pH - 6.11

1420 - begin measuring out sample reach
 Downstream point: (30 24983, 74.25 193) 20'
 Upstream point: (30 24979, 74.25 193) 25'
 W. Ave 57.4, 35.27, 140 Ave length: 1050'

Strong current throughout most of reach, some pond
 ripples, some fence posts.

1445 - begin electrofishing
 1700 - end electrofishing
 Photos of site = (2-3019 - 100-3023
 1720 - most fish 10 low vehicles.
 1750 off site RS-121
 1800 - on site at hotel - Filter Chlorophyll sampled
 Kenneth, Bealage, Jackson
 RS-121-50001 - 250ml Filtered chlorophylls
 RS-253 (5000) - 250ml filtered added 49605
 1850 - end of day
 5/5/01

98

Location: ERW Date: 5/9/01

Project: Central Arkansas Fish Sampling

RS-234

0850 - On site RS-234 to conduct fish sampling
 Crew: Bealage, Jackson, Bealage, Kowalski, Heister
 Weather: Sunny 90°F, wind S-W 10 mph

0915 - Dops measuring out sample reach
 Width: 718.34 17 - 19'; Ave length: 510'
 Upstream coordinate: (35 15197, -94.25017) 10'
 Downstream coordinate: (35 15501, -94.24983) 10'

Note: flow is fairly low, some barabank, mostly visible
 areas of subsurface flow upstream. Water mostly
 clear. Reach with small ripples and rags, some large
 pools and cutbanks.

1030 - Sample Time RS-234-030107 sun set up
 other fish location
 Temp: 27.8°C Cond = 184.0 uS
 pH: ~~8.06~~ 7.72 DO = 3.55C ppm
 Photos of site: 105-3025 → 100-251

1120 - end electrofishing - 6 large pools, 3 fishes, only 1
 ran within sampling reach

1150 - Low vehicles off site for day

1305 - On site RS-138 - barabank, 3 other for food
 for bar chlorophyll to send to Jim Heisterman
 - No chlorophyll visible to site. 08/5/01

1315 - Boat for lunch
 1400 - on site RS-100

98

Location: IRW Date: 8/9/07

Project/Client: Live Algae Collection

1420 - On site BS HF22 to look for live algae
 Crew: Barnett, Jordan
 Stream mostly clear of macroalgae, able to find a small patch of what appears to be *Oedogonium* or *Rhizosolenia*.
 Decide to grab sample and ask for if he wants us to send it.

1430 - Sample box BS-HF22-080802 - 1 gallon bag of live macroalgae

1435 - Offsite BS-HF22

1440 - Onsite RS 109 to look for algae
 - No sign of macroalgae at site - still not recovered from scouring events

1450 - Offsite RS-109

1510 - On site RS 392 to look for macroalgae possibly overland during fish sampling last weekend.

1515 - Sample box RS-392-080802 - 1 gallon epi-loc

* Sample may contain mix of *Oedogonium*, chlorophyll, appears to be mostly *Oedogonium*, due to difficulty finding chlorophyll we started early

1525 - Offsite RS-392

1540 - On site RS 745450 to look for chlorophyll

1545 - Sample box RS-745450-080802 - 1 gallon epi-loc

Note: Appears to be chlorophyll

1550 - Offsite RS-745450

88

99

Location: IRW Date: 8/9/07

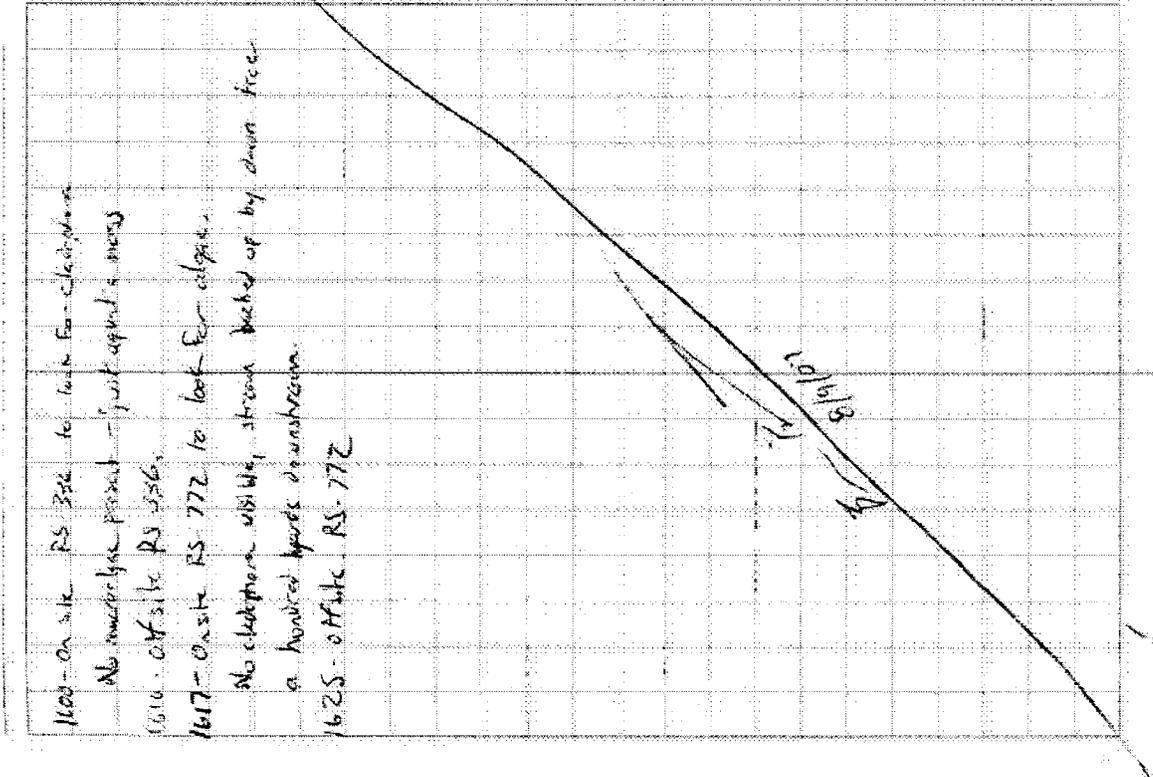
Project/Client: Live Algae Collection

1600 - On site RS 392 to look for chlorophyll
 No macroalgae present - just epiphytes on rocks

1610 - Offsite RS 392

1617 - Onsite RS 772 to look for algae
 No chlorophyll visible, stream backed up by dam free of horizontal boards downstream.

1625 - Offsite RS-772



Location: ER-28 Date: 8/15/07
Project Name: Brown Bear Lake Ecorest #1

Location: ER-28 Date: 8/15/07
Project Name: Brown Bear Lake Ecorest #1

1525 - On site 536-07
Coordinates (3400720, -1174790) 16'
Seach Depth = 2.75m Total Depth = 15.5m
Photos: 100-3036 - 100-3037

1230 - Begin vertical profile with castnet + Chameleons
Note: See date sheet
1235 - Sample Area (88L-07-3C-01) same as 88L-03-3C-01
collected earlier - 3m column
1245 - Sample Area (88L-03-3C-01) 12m P collected
at 1m off bottom.

Note: DO does not trip to near zero on depth.
1315 - Off site 88L-07
1335 - On site 88L-06. to collect water 1 col. p. 6m
Coordinates (3422586, -117467718) 7'
Seach Depth = 2.75m Total Depth = 4.2m
Photos 100-3040 - 100-3043

1340 - Begin vertical profile with castnet + Chameleons
1345 - Sample time (88L-06-3C-01) 3m column
- See COE for analysis
1355 - Sample time (88L-06-4-01) 1x125m P
collected in green location
1400 - Sample time (88L-06-3-01) 2x40ml Tot, 1x1L
Microplank, 1x1L TSP, 1x200-µ phyto, 1x250µ chlorophyll
1x500ml filtered water/1m³.

1525 - Off site 88L-06
1545 - On site 88L-03 - collect water, data
Coordinates (3418708, -117469181) 10'
Seach Depth = 2.25m Total Depth = 28.5m
Photos: 100-3074 - 100-3077

Note: wind picking up surface choppy
1600 - Sample Area (88L-03-3C-01) See COE
3m Column Sample
1610 - Sample time (88L-03-3-28-01) 1x125ml
? collected 1m off bottom

Note: noticed a considerable amount of organic debris
at 20-25m. Appears to be tree bark, or other
non-being organic material. ~~Sample~~ is size
DO dip around 7m and comes back up near bottom 10m
1700 - Finished sampling off site 88L-03
2225 - On site 1x1L storage - digital equipment, filter-
columns, samples. 250ml filtered for each
Sample
2300 - End of Day

1740 - Begin vertical profile with castnet + Chameleons
1745 - Sample time (88L-06-3C-01) 3m column
- See COE for analysis
1755 - Sample time (88L-06-4-01) 1x125m P
collected in green location
1800 - Sample time (88L-06-3-01) 2x40ml Tot, 1x1L
Microplank, 1x1L TSP, 1x200-µ phyto, 1x250µ chlorophyll
1x500ml filtered water/1m³.

104

Location: IRU-33 Date: 8/28/07

Project: Lake County, IL

Site: 105

Time: 08:10

08:10 on site. Began Sand Manure to reach bed. Colored 80% percent. Weather sunny, 85°F. Crew: Bennett, Berblinger.

09:00 On site BSL-08 to detect profile, collect water samples. Coordinates: (34.828215, -94.08214) 13'

09:50 Vertical profile started with Tool 9500. Sample time [BSL-08-3C-01]. 1x 125ml P, 1x 200ml chloro, 1x 200ml phytoplankton, 1x 500ml TKM, 1x 500ml pipette + 20ml H₂O (column).

10:10 Sample time [37L-08-3-01]. 3m grab. 1x 1L mesozoa, 1x 1L FFP, 1x 500ml Alkalinity, 1x 250ml chloro, 1x 250ml phytoplankton, 2x 400ml TCC.

10:20 Sample time [BSL-08-20-01]. 1x 125ml P. Collected for off bottom. Total Depth = 21.5m. Secchi Depth = 2.75m. Photos 100-155 100-156 Site 882-08.

100-157-100-0158 Filtered w/ 2.5um filter for In Situ. 100-0159-100-0164 Secchi readings with the meter. We were very calm at this location today.

10:45 On site BSL-07 to do stack, profile, collect water samples. (34.24688, -94.61998) 15'.

105

Location: IRU-33 Date: 8/28/07

Project: Lake County, IL

Site: 105

Time: 08:10

08:10 on site. Began Sand Manure to reach bed. Colored 80% percent. Weather sunny, 85°F. Crew: Bennett, Berblinger.

09:00 On site BSL-08 to detect profile, collect water samples. Coordinates: (34.828215, -94.08214) 13'

09:50 Vertical profile started with Tool 9500. Sample time [BSL-08-3C-01]. 1x 125ml P, 1x 200ml chloro, 1x 200ml phytoplankton, 1x 500ml TKM, 1x 500ml pipette + 20ml H₂O (column).

10:10 Sample time [37L-08-3-01]. 3m grab. 1x 1L mesozoa, 1x 1L FFP, 1x 500ml Alkalinity, 1x 250ml chloro, 1x 250ml phytoplankton, 2x 400ml TCC.

10:20 Sample time [BSL-08-20-01]. 1x 125ml P. Collected for off bottom. Total Depth = 21.5m. Secchi Depth = 2.75m. Photos 100-155 100-156 Site 882-08.

100-157-100-0158 Filtered w/ 2.5um filter for In Situ. 100-0159-100-0164 Secchi readings with the meter. We were very calm at this location today.

10:45 On site BSL-07 to do stack, profile, collect water samples. (34.24688, -94.61998) 15'.

108

Location IRW Date 8/22/07
Project/Client Lake Event III - Tankiller

0820 - On site at Marina, load equipment. Weather: Sunny, Calm, 85°F, some clouds. Crew: Bennett, Beeblinger.

0805 - On site LK-02 to collect water to vertical probe. (35.67740, -94.97873) 13' Total Depth: 24m

0810 - Begin vertical probe filling. Secchi Depth = 2.0m Photos - 100-0124 - 100-0150: site photos. 100-0181 - 100-0250: Secchi photos, depth 6.5'

0815 - Sample time LK-02-03C-01 0-3m column. 1x 125ml P, 1x 125ml phyto, 1x 250ml Chloro.

0825 - Sample time LK-02-25-01 1x 125ml P collected in off bottom.

0950 - off site LK-02. Note: Lake extremely calm, no breeze, good quality Secchi reading at this location.

1055 - On site LK-01 Marker: Sunny 85°F (35.60779, -95.04959) 7'

1010 - Begin vertical profile.

1015 - Sample time LK-01-3C-01 - see 100-032a column.

1025 - Sample time LK-01-25-01 - 1x 125ml P collected in off lake bottom. Note: Lake still calm, smooth surface.

Location IRW

109

Date 8/22/07
Project/Client Lake Event III - Tankiller

1030 - Secchi Depth reading at LK-01. Secchi Depth = 2.1m Total Depth = 26m. Photos 100-0186 - 100-0187 - site photos. 100-0188 - 100-0192 = Secchi depth photos. 12365

1050 - off site LK-01. Samples at 3m depth. 1055 - On site RWI-GOREPWA - to collect water.

1100 - Sample time RWI-GOREPWA-3-01. 1x 1L microscopy 1x 1L TSP, 1x 250ml chloro. 1x 125ml phyto, 1x 500ml Alkalinity, 2x 125ml TOC. Conductivity = (35.59769, -95.04902) 23'. Photos = 100-0193 - 100-0194 site photos.

Secchi Depth = 2.25m In situ Readings. Temp = 29.35 °C TDO = 2.91 mg/L pH = 8.93 Turbidity = 1.2 NTU Conductivity = 191.1 µS

1105 - off site RWI - GOREPWA. On site LK-05 to do vertical profile & every other meter, collect 1x 125ml P near bottom. (35.59573, -95.04071) 13'

1130 - Sample time LK-05-44-01 1x 125ml P collected in off bottom. Secchi Depth = 2.0m Total Depth = 25m. Photos = 100-0195 - 100-0196 = site photos. 1140 - off site LK-05 1x 0.197 - 100-0202 Secchi @ 12396'

1:10

Location: IRW

Date: 8/29/07

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Date: 8/29/07

Location: IRW

Event: Lake Event III - Tankiller

Event: Lake Event III - Tankiller

1250 - On site RWI-CMRW013 to collect water

2.3m - Coordinates (85.71301, -94.94622) 10'

11300 - Sample Time (RWI-CMRW013-3-01) 1 x 1L TFP

1x1L microcystin 1x 125mL phyto, 1x 200mL chloro, 2x 100mL TOC, 1x 500mL ATR luminosity

WQ out 3m

Temp = 23.87 rDO = 5.95

Conductivity = 188.0 Turbidity = 1.8

pH = 8.28 Secchi depth = 2.2m

Photos of site = 100-0205-100-0206 = original filter plus site photos

1305 - off site RWI-CMRW013

1325 - On site LL-03 weather = Sunny, calm, 78°F

Coordinates: (85.73724, -94.93966) 10'

1330 - Begin vertical p-site. See lake sheet

Secchi Depth = 1.5m Total Depth = 8m

Photos = 100-0205 - 100-0206 - site photos

* Rain prevented Secchi photos

11335 - Sample Time (LK-03-SC-01) -- See COC

* 0-3m column sampler

11345 - Sample Time (LK-03-7-01) 1 x 125mL P

* collected in off-bottom

Note: Will run shower model in during sampling.

1350 - off site LK-03

1710 - On site LK-04 - Rain stopped, occasional thunder (85.79212, -94.98544) 10'

1715 - Begin vertical p-site at LK-04

Secchi Depth = 0.75m Total Depth = 6m

photos = 100-0207 - 100-0208 - Site photos

100-0209 - 100-0211 = Secchi @ 1, 2, 3'

11400 - Sample time (LK-04-3C-01) 0-3m column

* See COC for analytics

11435 - Sample time (LK-04-5-01) 125mL P

collected in off-bottom

1435 - OFFSITE 100-0212

1455 - On site RWI-CMRW013 to collect

water WQ @ 3m

Coordinates: (85.74122, -94.92920) 25'

Secchi Depth = 1.5m

1500 - WQ @ 3m =

Temp = 20.39 rDO = 10.72

pH = 8.91 Turbidity = 3.74

Conductivity = 182.8

1505 - Sample time (RWI-CMRW013-3-01) filter

* See COC for parameters: 100-0214-15

1510 - OFFSITE CMRW013 used to measure

1515 - 250mL lake Tankiller rain to filter

1518 - Sample security bagged at Tankiller - End of day

8/29/07

112

Location: IRW Date: 3/30/07

Project/Client: Miss. Marine Collection
RS-25, 122, 180, 305, 318, 344, 377, 299, 72, 709, 930, 950, 971

0915 - On site RS-305 to look for low spots, ctenophores

to send to Jan Stevenson

Weather: Sunny, 80°F

Crew: Brian Bennett

0915 - No ctenophores found - Off site

0935 - On site RS-122 to look for ctenophores

0945 - Off site - No ctenophores found

0955 - On site RS-180

0959 - Off site - No ctenophores

1007 - On site RS-350

1017 - Off site - No ctenophores

1020 - On site RS-75

1025 - On site RS-344

1030 - Off site - No ctenophores, very little foam at site

1033 - On site RS-317Z

1042 - Off site - No ctenophores

1055 - On site RS-299

1100 - Off site - No ctenophores

1105 - On site RS-72

1110 - Off site - No ctenophores only ctenophore fragments observed

1155 - On site RS-795430

** No ctenophores present even at sites previously collected

1205 - Only waterbirds noted - Off site

1223 - On site RS-118001

1229 - Off site - No ctenophores found

BBB 5/20/07

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Location: _____ Date: _____

Project / Client: _____

